Pass the micropipette

Chemogenetic techniques, such as designer receptor exclusively activated by designer drugs (DREADD) systems, are powerful ways to modulate neuronal activity in behaving animals. But, that neuronal activation requires that the appropriate drug be administered to the animal at the appropriate dose and at the desired time. Most studies rely on intraperitoneal (IP) injections to control those details, but this procedure requires handling and restraint of the animals for the injection, which can cause stress.

Looking to minimize stress to mice used in DREADD studies, new research this month from Tina Notter's lab at the University of Zurich compares IP injections of Clozapine-N-oxide, a common ligand used in DREADD systems, against a non-invasive means to provide the drug: the micropipette-guided drug administration method, originally developed as a less-stressful alternative to oral gavage.

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Can my cat get COVID?

What about my dog, or my horse, or that animal in the zoo? As the COVID-19 pandemic rages on, many have been concerned about whether their pets, and other animals out there, can get sick with the same virus that has proved so problematic in people. Researchers and veterinarians aren't ignoring the 'what animals can get infected?' question: for SARS-CoV-2 and beyond, surveilling species that come into close contact with people – be they pets, agricultural animals, or wildlife living nearby – is a priority for understanding where viruses can come from and where they might go.

Our March Technology Feature explores how researchers decide what species to prioritize for viral surveillance, and how they go about figuring out that a particular animal may be susceptible to getting or spreading a zoonotic disease.

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